

SeqListing.txt
SEQUENCE LISTING

<110> Zhu, Zhenping

<120> Bispecific Antibodies That Bind to VEGF Receptors

<130> 11245/48503

<140> 10/520,026

<141> 2004-12-27

<150> PCT/US02/041372

<151> 2002-12-24

<150> PCT/US02/20332

<151> 2002-06-26

<150> US 60/301,299

<151> 2001-06-26

<160> 137

<170> wordPerfect 8.0 for windows

<210> 1

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Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe Gln Gly
1 5 10 15

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<211> 8

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Tyr Tyr Gly Asp Tyr Glu Gly Tyr
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<211> 10

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Ser Ala Ser Ser Ser val Ser Tyr Met His
1 5 10

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Ser Thr Ser Asn Leu Ala Ser
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Gln Gln Arg Ser Ser Tyr Pro Phe Thr
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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
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 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Gly Tyr Ala Pro Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Val Thr Val Ser Ser
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<400> 8

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 1 5 10 15
 Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30
 His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
 35 40 45
 Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60
 Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
 65 70 75 80
 Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
 85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
 100 105

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 Gly Phe Asn Ile Lys Asp Phe Tyr Met His
 1 5 10

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 ggc 51

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tac tat ggt gac tac gaa ggc tac 24
 Tyr Tyr Gly Asp Tyr Glu Gly Tyr
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<210> 12

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<212> DNA

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agt gcc agc tca agt gta agt tac atg cac 30
 Ser Ala Ser Ser Ser Val Ser Tyr Met His
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agc aca tcc aac ctg gct tct 21
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<210> 14

<211> 27

<212> DNA

<213> Mouse

SeqListing.txt

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<400> 16

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SeqListing.txt

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<400> 19

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<210> 22
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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
 1 5 10 15

SeqListing.txt

Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe
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 Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
 100 105 110
 Val Thr Val Ser Ser
 115

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<400> 23

Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
 1 5 10 15
 Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30
 His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys Leu Trp Ile Tyr
 35 40 45
 Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60
 Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Met Glu Ala Glu
 65 70 75 80
 Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser Tyr Pro Phe Thr
 85 90 95
 Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 24
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<210> 25
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<400> 25

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tca gtc aaa ttg tcc tgc aca act tct ggc ttc aac att aaa gac ttc	96
Ser Val Lys Leu Ser Cys Thr Thr Ser Gly Phe Asn Ile Lys Asp Phe	
20 25 30	
tat atg cac tgg gtg aag cag agg cct gaa cag ggc ctg gag tgg att	144
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile	
35 40 45	
gga tgg att gat cct gag aat ggt gat tct gat tat gcc ccg aag ttc	192

SeqListing.txt

Gly	Trp	Ile	Asp	Pro	Glu	Asn	Gly	Asp	Ser	Asp	Tyr	Ala	Pro	Lys	Phe	
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cag	ggc	aag	gcc	acc	atg	act	gca	gac	tca	tcc	tcc	aac	aca	gcc	tac	240
Gln	Gly	Lys	Ala	Thr	Met	Thr	Ala	Asp	Ser	Ser	Ser	Asn	Thr	Ala	Tyr	
65					70					75					80	
ctg	cag	ctc	agc	agc	ctg	aca	tct	gag	gac	act	gcc	gtc	tat	tac	tgt	288
Leu	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
				85					90					95		
aat	gca	tac	tat	ggg	gac	tac	gaa	ggc	tac	tgg	ggc	caa	ggg	acc	acg	336
Asn	Ala	Tyr	Tyr	Gly	Asp	Tyr	Glu	Gly	Tyr	Trp	Gly	Gln	Gly	Thr	Thr	
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gtc	acc	gtc	tcc	tca												351
Val	Thr	Val	Ser	Ser												
		115														

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<400> 26

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Asp	Ile	Glu	Leu	Thr	Gln	Ser	Pro	Ala	Ile	Met	Ser	Ala	Ser	Pro	Gly	
1				5					10					15		
gag	aag	gtc	acc	ata	acc	tgc	agt	gcc	agc	tca	agt	gta	agt	tac	atg	96
Glu	Lys	Val	Thr	Ile	Thr	Cys	Ser	Ala	Ser	Ser	Ser	Val	Ser	Tyr	Met	
			20					25					30			
cac	tgg	ttc	cag	cag	aag	cca	ggc	act	tct	ccc	aaa	ctc	tgg	att	tat	144
His	Trp	Phe	Gln	Gln	Lys	Pro	Gly	Thr	Ser	Pro	Lys	Leu	Trp	Ile	Tyr	
		35					40					45				
agc	aca	tcc	aac	ctg	gct	tct	gga	gtc	cct	gct	cgc	ttc	agt	ggc	agt	192
Ser	Thr	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	Ser	
		50				55				60						
gga	tct	ggg	acc	tct	tac	tct	ctc	aca	atc	agc	cga	atg	gag	gct	gaa	240
Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Arg	Met	Glu	Ala	Glu	
65					70					75					80	
gat	gct	gcc	act	tat	tac	tgc	cag	caa	agg	agt	agt	tac	cca	ttc	acg	288
Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Arg	Ser	Ser	Tyr	Pro	Phe	Thr	
				85					90					95		
ttc	ggc	tcg	ggg	acc	aag	ctg	gaa	ata	aaa							318
Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Ile	Lys							
			100					105								

<210> 27
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<400> 27

Gln	Val	Lys	Leu	Gln	Gln	Ser	Gly	Ala	Glu	Leu	Val	Gly	Ser	Gly	Ala	
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Ser	Val	Lys	Leu	Ser	Cys	Thr	Thr	Ser	Gly	Phe	Asn	Ile	Lys	Asp	Phe	
			20					25					30			
Tyr	Met	His	Trp	Val	Lys	Gln	Arg	Pro	Glu	Gln	Gly	Leu	Glu	Trp	Ile	
		35					40					45				
Gly	Trp	Ile	Asp	Pro	Glu	Asn	Gly	Asp	Ser	Gly	Tyr	Ala	Pro	Lys	Phe	
	50					55				60						
Gln	Gly	Lys	Ala	Thr	Met	Thr	Ala	Asp	Ser	Ser	Ser	Asn	Thr	Ala	Tyr	
65					70					75					80	
Leu	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
				85					90					95		

SeqListing.txt

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Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125
Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
130 135 140
Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145 150 155 160
Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
165 170 175
Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
180 185 190
Phe Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
195 200 205
Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
210 215 220
Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala
225 230 235 240

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<210> 28
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<400> 28

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Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Gly Ser Gly Ala
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20 25 30
Tyr Met His Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45
Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Asp Tyr Ala Pro Lys Phe
50 55 60
Gln Gly Lys Ala Thr Met Thr Ala Asp Ser Ser Ser Asn Thr Ala Tyr
65 70 75 80
Leu Gln Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Asn Ala Tyr Tyr Gly Asp Tyr Glu Gly Tyr Trp Gly Gln Gly Thr Thr
100 105 110
Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
115 120 125
Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ala Ile Met Ser
130 135 140
Ala Ser Pro Gly Glu Lys Val Thr Ile Thr Cys Ser Ala Ser Ser Ser
145 150 155 160
Val Ser Tyr Met His Trp Phe Gln Gln Lys Pro Gly Thr Ser Pro Lys
165 170 175
Leu Trp Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg
180 185 190
Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg
195 200 205
Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Arg Ser Ser
210 215 220
Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
225 230 235

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<213> Artificial Sequence
 <220>

SeqListing.txt

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 <223> Synthetic primer
 <400> 30
 tcgaaggatc actcaccttt tatttccagc 30
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 <211> 52
 <212> DNA
 <213> Artificial Sequence
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 <223> Synthetic primer
 <400> 31
 ggtcaaaagc ttatggggat ggtcatgtat catccttttt ctagtagcaa ct 52
 <210> 32
 <211> 36
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> signal
 <400> 32
 tcgatctaga aggatccact cacgttttat ttccag 36
 <210> 33
 <211> 19
 <212> PRT
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 <223> leader peptide
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 Val His Ser
 <210> 34
 <211> 32
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 <220>
 <223> Synthetic primer

SeqListing.txt

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<210> 35

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<213> Mouse

<400> 35

Ser Gly Phe Asn Ile Lys Asp Thr Tyr Ile His
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<210> 36

<211> 17

<212> PRT

<213> Mouse

<400> 36

Gly Arg Ile Asp Pro Pro Asn Asp Asn Thr Lys Asp Pro Lys Phe Gln Gly
1 5 10 15

<210> 37

<211> 7

<212> PRT

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<400> 37

Pro Pro Phe Tyr Phe Asp Tyr
1 5

<210> 38

<211> 11

<212> PRT

<213> Mouse

<400> 38

Lys Ala Ser Gln Asn Val Asp Thr Asn Val Ala
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<210> 39

<211> 7

<212> PRT

<213> Mouse

<400> 39

Ser Ala Ser Tyr Arg Tyr Ser
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<210> 40

<211> 9

<212> PRT

<213> Mouse

<400> 40

SeqListing.txt

Gln Gln Tyr Asn Ser Phe Pro Tyr Thr
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<400> 41

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
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 Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr
 20 25 30
 Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Trp Ile Asp Pro Pro Asn Asp Asn Thr Lys Tyr Asp Pro Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val
 100 105 110
 Thr Val Ser Ser
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<210> 42
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 <212> PRT
 <213> Mouse

<400> 42

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 20 25 30
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile
 35 40 45
 Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser
 65 70 75 80
 Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Phe Pro Tyr
 85 90 95
 Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala
 100 105

<210> 43
 <211> 33
 <212> DNA
 <213> Mouse

<400> 43

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 1 5 10

33

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SeqListing.txt

<213> Mouse

<400> 44

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1          5          10          15
cag 51

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<210> 45

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<212> DNA

<213> Mouse

<400> 45

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cca ccc ttc tac ttt gac tac 21
Pro Pro Phe Tyr Phe Asp Tyr
1          5

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<210> 46

<211> 33

<212> DNA

<213> Mouse

<400> 46

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aag gcc agt cag aat gtg gat act aat gta gcc 33
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<210> 47

<211> 21

<212> DNA

<213> Mouse

<400> 47

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Ser Ala Ser Tyr Arg Tyr Ser
1          5

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<212> DNA

<213> Mouse

<400> 48

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cag caa tat aac agc ttt cct tac acg 27
Gln Gln Tyr Asn Ser Phe Pro Tyr Thr
1          5

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<210> 49

<211> 348

<212> DNA

<213> Mouse

<400> 49

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Page 12

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SeqListing.txt

1	5	10	15	
tca gtc aag ttg tcc tgc aca gct tct ggc ttc aac att aaa gac acc				96
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr				
	20	25	30	
tat ata cac tgg gtg aag cag agc cct gaa cag ggc ctg gag tgg att				144
Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile				
	35	40	45	
gga agg atc gat cct ccg aat gat aat act aaa tat gac ccg aag ttc				192
Gly Trp Ile Asp Pro Pro Asn Asp Asn Thr Lys Tyr Asp Pro Lys Phe				
	50	55	60	
cag ggc aag gcc act ata aca gca gac aca tcc tcc aat aca gcc tac				240
Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr				
	65	70	75	
atg cag ctc cgc agc ctg aca tct gag gac act gcc gtc tat tac tgt				288
Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys				
	85	90	95	
gcc ctc cca ccg ttc tac ttt gac tac tgg ggc cat ggc acc acg gtc				336
Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val				
	100	105	110	
acc gtc tcc tca				348
Thr Val Ser Ser				
	115			

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gac atc gag ctc act cag tct cca aaa ttc atg tcc aca tca gta gga	
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gac agg gtc agc gtc acc tgc aag gcc agt cag aat gtg gat act aat	96
Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Asp Thr Asn	
	20
gta gcc tgg tat caa cag aaa cca ggg caa tct cct aaa gca ctg att	144
Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile	
	35
tac tcg gca tcc tac cgg tac agt gga gtc cct gat cgc ttc aca ggc	192
Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly	
	50
agt gga tct ggg aca gat ttc act ctc acc atc agc aat gtg cag tct	240
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser	
	65
gaa gac ttg gca gag tat ttc tgt cag caa tat aac agc ttt cct tac	288
Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Phe Pro Tyr	
	85
acg ttc gga ggg ggg acc aag ctg gaa ata aaa cgg gcg	327
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala	
	100
	105

<210> 51
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 <213> Mouse

<400> 51

Gln Val Lys Leu Gln Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala
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Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr
20 25 30

SeqListing.txt

Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Trp Ile Asp Pro Pro Asn Asp Asn Thr Lys Tyr Asp Pro Lys Phe
 50 55 60
 Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
 65 70 75 80
 Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val
 100 105
 Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125
 Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Lys Phe Met Ser Thr
 130 135 140
 Ser Val Gly Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val
 145 150 155 160
 Asp Thr Asn Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys
 165 170 175
 Ala Leu Ile Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg
 180 185 190
 Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn
 195 200 205
 Val Gln Ser Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser
 210 215 220
 Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala
 225 230 235 240

<210> 52
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tca gtc aag ttg tcc tgc aca gct tct ggc ttc aac att aaa gac acc	96
Ser Val Lys Leu Ser Cys Thr Ala Ser Gly Phe Asn Ile Lys Asp Thr	
20 25 30	
tat ata cac tgg gtg aag cag agc cct gaa cag ggc ctg gag tgg att	144
Tyr Ile His Trp Val Lys Gln Ser Pro Glu Gln Gly Leu Glu Trp Ile	
35 40 45	
gga agg atc gat cct ccg aat gat aat act aaa tat gac ccg aag ttc	192
Gly Trp Ile Asp Pro Pro Asn Asp Asn Thr Lys Tyr Asp Pro Lys Phe	
50 55 60	
cag ggc aag gcc act ata aca gca gac aca tcc tcc aat aca gcc tac	240
Gln Gly Lys Ala Thr Ile Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr	
65 70 75 80	
atg cag ctc cgc agc ctg aca tct gag gac act gcc gtc tat tac tgt	288
Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
gcc ctc cca ccg ttc tac ttt gac tac tgg ggc cat ggc acc acg gtc	336
Ala Leu Pro Pro Phe Tyr Phe Asp Tyr Trp Gly His Gly Thr Thr Val	
100 105 110	
acc gtc tcc tca ggt gga ggc ggt tca ggc gga ggg ggc tct ggc ggt	384
Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly	
115 120 125	
ggc gga tcg gac atc gag ctc act cag tct cca aaa ttc atg tcc aca	432
Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Lys Phe Met Ser Thr	
130 135 140	
tca gta gga gac agg gtc agc gtc acc tgc aag gcc agt cag aat gtg	480
Ser Val Gly Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val	

Sequence alignment																	
145	gat	act	aat	gta	gcc	tgg	tat	caa	cag	aaa	cca	ggg	caa	tct	cct	aaa	528
Asp	Thr	Asn	Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Lys		
				165						170					175		576
gca	ctg	att	tac	tcg	gca	tcc	tac	cgg	tac	agt	gga	gtc	cct	gat	cgc		
Ala	Leu	Ile	Tyr	Ser	Ala	Ser	Tyr	Arg	Tyr	Ser	Gly	Val	Pro	Asp	Arg		
				180					185					190			624
ttc	aca	ggc	agt	gga	tct	ggg	aca	gat	ttc	act	ctc	acc	atc	agc	aat		
Phe	Thr	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Thr	Ile	Ser	Asn		
				195			200					205					672
gtg	cag	tct	gaa	gac	ttg	gca	gag	tat	ttc	tgt	cag	caa	tat	aac	agc		
Val	Gln	Ser	Glu	Asp	Leu	Ala	Glu	Tyr	Phe	Cys	Gln	Gln	Tyr	Asn	Ser		
						215					220						720
ttt	cct	tac	acg	ttc	gga	ggg	ggg	acc	aag	ctg	gaa	ata	aaa	cgg	gcg		
Phe	Pro	Tyr	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala		
225					230					235					240		

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<213>	Human

<400> 53

Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala
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<400> 54

Asp Ser Ser Asn Arg Ala Thr
5

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Leu Gln His Asn Thr Phe Pro Pro Thr
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<210>	56
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Arg Ala Ser Gln Gly Ile Ser Ser Arg Leu Ala
5 10

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SeqListing.txt

Ala Ala Ser Ser Leu Gln Thr
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<400> 58

Gln Gln Ala Asn Arg Phe Pro Pro Thr
5

<210> 59
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<400> 59

Ala Gly Thr Thr Thr Asp Leu Thr Tyr Tyr Asp Leu Val Ser
5 10

<210> 60
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Asp Gly Asn Lys Arg Pro Ser
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<210> 61
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<212> PRT
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Asn Ser Tyr Val Ser Ser Arg Phe Tyr Val
5 10

<210> 62
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<400> 62

Ser Gly Ser Thr Ser Asn Ile Gly Thr Asn Thr Ala Asn
5 10

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<213> Human

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Asn Asn Asn Gln Arg Pro Ser
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<210> 64
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<400> 64

Ala Ala Trp Asp Asp Ser Leu Asn Gly His Trp Val
 5 10

<210> 65
 <211> 10
 <212> PRT
 <213> Human
 <400> 65

Gly Phe Thr Phe Ser Ser Tyr Ser Met Asn
 5 10

<210> 66
 <211> 17
 <212> PRT
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<400> 66

Ser Ile Ser Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val Lys Gly
 5 10 15

<210> 67
 <211> 7
 <212> PRT
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<400> 67

Val Thr Asp Ala Phe Asp Ile
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<210> 68
 <211> 10
 <212> PRT
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<400> 68

Gly Gly Thr Phe Ser Ser Tyr Ala Ile Ser
 5 10

<210> 69
 <211> 18
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<400> 69

Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe Gln Gly
 5 10 15

<210> 70
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<400> 70

Gly Tyr Asp Tyr Tyr Asp Ser Ser Gly Val Ala Ser Pro Phe Asp Tyr
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<210> 71
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SeqListing.txt

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tca gtg aag gtc tcc tgc aag gct tct gga ggc acc ttc agc agc tat	96
Ser Val Lys Val ₂₀ Ser Cys Lys Ala ₂₅ Ser Gly Gly Thr Phe ₃₀ Ser Ser Tyr	
gct atc agc tgg gtg cga cag gcc cct gga caa ggg ctt gag tgg atg	144
Ala Ile Ser ₃₅ Trp Val Arg Gln Ala ₄₀ Pro Gly Gln Gly ₄₅ Leu Glu Trp Met	
gga ggg atc atc cct atc ttt ggt aca gca aac tac gca cag aag ttc	192
Gly Gly ₅₀ Ile Ile Pro Ile Phe ₅₅ Gly Thr Ala Asn Tyr ₆₀ Ala Gln Lys Phe	
cag ggc aga gtc act ttt acc gcg gac aaa tcc acg agt aca gcc tat	240
Gln Gly Arg Val Thr Phe ₇₀ Thr Ala Asp Lys ₇₅ Ser Thr Ser Thr Ala Tyr ₈₀	
atg gag ttg agg agc ctg aga tct gac gac acg gcc gtg tat tac tgt	288
Met Glu Leu Arg Ser ₈₅ Leu Arg Ser Asp Asp ₉₀ Thr Ala Val Tyr Tyr Cys	
gcg aga gga tac gat tac tat gat agt agt ggc gtg gct tcc ccc ttt	336
Ala Arg Gly Tyr ₁₀₀ Asp Tyr Tyr Asp ₁₀₅ Ser Ser Gly Val Ala ₁₁₀ Ser Pro Phe	
gac tac tgg ggc cag gga acc ctg gtc acc gtc tca agc	375
Asp Tyr Trp ₁₁₅ Gly Gln Gly Thr Leu Val ₁₂₀ Thr Val Ser Ser ₁₂₅	

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Glu Val Gln Leu Val ₅ Gln Ser Gly Ala ₁₀ Glu Val Lys Lys Pro Gly ₁₅ Ala
Ser Val Lys Val ₂₀ Ser Cys Lys Ala ₂₅ Ser Gly Gly Thr Phe ₃₀ Ser Ser Tyr
Ala Ile Ser ₃₅ Trp Val Arg Gln Ala ₄₀ Pro Gly Gln Gly ₄₅ Leu Glu Trp Met
Gly Gly ₅₀ Ile Ile Pro Ile Phe ₅₅ Gly Thr Ala Asn Tyr ₆₀ Ala Gln Lys Phe
Gln Gly Arg Val Thr Phe ₇₀ Thr Ala Asp Lys ₇₅ Ser Thr Ser Thr Ala Tyr ₈₀
Met Glu Leu Arg Ser ₈₅ Leu Arg Ser Asp Asp ₉₀ Thr Ala Val Tyr Tyr Cys
Ala Arg Gly Tyr ₁₀₀ Asp Tyr Tyr Asp ₁₀₅ Ser Ser Gly Val Ala ₁₁₀ Ser Pro Phe
Asp Tyr Trp ₁₁₅ Gly Gln Gly Thr Leu Val ₁₂₀ Thr Val Ser Ser ₁₂₅

<210> 73
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 <212> DNA
 <213> Human

<400> 73

cag tct gtg ctg act cag cca ccc tca gcg tct ggg acc ccc ggg cag	48
Gln Ser Val Leu Thr ₅ Gln Pro Pro Ser Ala ₁₀ Ser Gly Thr Phe ₁₅ Ser Ser Gln	
agg gtc acc atc tct tgt tct gga agc acc tcc aac atc ggt act aat	96
Arg Val Thr ₂₀ Ile Ser Cys Ser Gly ₂₅ Ser Thr Ser Asn Ile Gly ₃₀ Thr Asn	
act gca aac tgg ttc cag cag ctc cca gga acg gcc ccc aaa ctc ctc	144

SeqListing.txt

Thr	Ala	Asn	Trp	Phe	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu		
		35					40					45					
atc	cac	aat	aat	aat	cag	cgg	ccc	tca	ggg	gtc	cct	gac	cga	ttc	tct	192	
Ile	His	Asn	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser		
		50				55					60						
ggc	tcc	aag	tct	ggc	acc	tca	gcc	tcc	ctg	gcc	atc	agt	ggg	ctc	cag	240	
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln		
65					70					75					80		
tct	gag	gat	gag	gct	gat	tat	tac	tgt	gca	gca	tgg	gat	gac	agc	ctg	288	
Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu		
				85					90					95			
aat	ggc	cat	tgg	gtg	ttc	ggc	gga	ggg	acc	aag	ctg	acc	gtc	ctg		333	
Asn	Gly	His	Trp	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu			
			100					105					110				

<210> 74
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<400> 74

Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln		
				5					10					15			
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Thr	Ser	Asn	Ile	Gly	Thr	Asn		
			20					25					30				
Thr	Ala	Asn	Trp	Phe	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu		
		35					40					45					
Ile	His	Asn	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser		
	50				55					60							
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln		
65					70				75						80		
Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu		
				85					90					95			
Asn	Gly	His	Trp	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu			
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<210> 75
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 <212> DNA
 <213> Human

<400> 75

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Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Gly	Gly	Leu	Val	Lys	Pro	Gly	Gly		
				5					10					15			
tcc	ctg	aga	ctc	tcc	tgt	gca	gcc	tct	gga	ttc	acc	ttc	agt	agc	tat	96	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr		
			20					25					30				
agc	atg	aac	tgg	gtc	cgc	cag	gct	cca	ggg	aag	ggg	ctg	gag	tgg	gtc	144	
Ser	Met	Asn	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val		
		35				40						45					
tca	tcc	att	agt	agt	agt	agt	agt	tac	ata	tac	tac	gca	gac	tca	gtg	192	
Ser	Ser	Ile	Ser	Ser	Ser	Ser	Ser	Tyr	Ile	Tyr	Tyr	Ala	Asp	Ser	Val		
	50				55					60							
aag	ggc	cga	ttc	acc	atc	tcc	aga	gac	aac	gcc	aag	aac	tca	ctg	tat	240	
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Ser	Leu	Tyr		
65					70				75						80		
ctg	caa	atg	aac	agc	ctg	aga	gcc	gag	gac	acg	gct	gtg	tat	tac	tgt	288	
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys		
				85					90					95			
gcg	aga	gtc	aca	gat	gct	ttt	gat	atc	tgg	ggc	caa	ggg	aca	atg	gtc	336	

SeqListing.txt

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 100 105 110
 acc gtc tca agc
 Thr Val Ser Ser
 115

348

<210> 76
 <211> 116
 <212> PRT
 <213> Human

<400> 76

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 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 20 25 30
 Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 77
 <211> 321
 <212> DNA
 <213> Human

<400> 77

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 gaa aga gcc acc ctc tcc tgc agg gcc agt cag agt gtt agc agc tac 96
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
 20 25 30
 tta gcc tgg tac caa cag aaa cct ggc cag gct ccc agg ctc ctc atc 144
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 tat gat tca tcc aac agg gcc act ggc atc cca gcc aga ttc agt ggc 192
 Tyr Asp Ser Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 agt ggg tct ggg aca gac ttc act ctc acc atc agc agc cta gag cct 240
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
 65 70 75 80
 gaa gat ttt gca act tat tac tgt cta cag cat aac act ttt cct ccg 288
 Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Thr Phe Pro Pro
 85 90 95
 acg ttc ggc caa ggg acc aag gtg gaa atc aaa 321
 Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
 100 105

<210> 78
 <211> 107
 <212> PRT
 <213> Human

SeqListing.txt

<400> 78

Glu	Ile	Val	Met	Thr ₅	Gln	Ser	Pro	Ala	Thr ₁₀	Leu	Ser	Leu	Ser	Pro ₁₅	Gly
Glu	Arg	Ala	Thr ₂₀	Leu	Ser	Cys	Arg	Ala ₂₅	Ser	Gln	Ser	Val	Ser ₃₀	Ser	Tyr
Leu	Ala	Trp ₃₅	Tyr	Gln	Gln	Lys	Pro ₄₀	Gly	Gln	Ala	Pro	Arg ₄₅	Leu	Leu	Ile
Tyr	Asp ₅₀	Ser	Ser	Asn	Arg	Ala ₅₅	Thr	Gly	Ile	Pro	Ala ₆₀	Arg	Phe	Ser	Gly
Ser	Gly	Ser	Gly	Thr	Asp ₇₀	Phe	Thr	Leu	Thr	Ile ₇₅	Ser	Ser	Leu	Glu	Pro ₈₀
Glu	Asp	Phe	Ala	Thr ₈₅	Tyr	Tyr	Cys	Leu	Gln ₉₀	His	Asn	Thr	Phe	Pro ₉₅	Pro
Thr	Phe	Gly	Gln ₁₀₀	Gly	Thr	Lys	Val	Glu ₁₀₅	Ile	Lys					

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<211> 348

<212> DNA

<213> Human

<400> 79

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<211> 330

<212> DNA

<213> Human

<400> 80

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Gln	Ser	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Leu	Ser	Gly	Ser	Pro	Gly	Gln	
				5					10					15		
tcg	atc	acc	atc	tcc	tgc	gct	gga	acc	acc	act	gat	ctt	aca	tat	tat	96
Ser	Ile	Thr	Ile	Ser	Cys	Ala	Gly	Thr	Thr	Thr	Asp	Leu	Thr	Tyr	Tyr	
			20					25					30			

SeqListing.txt

gac	ctt	gtc	tcc	tgg	tac	caa	cag	cac	cca	ggc	caa	gca	ccc	aaa	ctc	144
Asp	Leu	Val	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Gln	Ala	Pro	Lys	Leu	
		35					40				45					
gtg	att	tat	gac	ggc	aat	aag	cgg	ccc	tca	gga	gtt	tct	aat	cgc	ttc	192
Val	Ile	Tyr	Asp	Gly	Asn	Lys	Arg	Pro	Ser	Gly	Val	Ser	Asn	Arg	Phe	
	50				55					60						
tct	ggc	tcc	aag	tct	ggc	aac	acg	gcc	tcc	ctg	aca	atc	tct	gga	ctc	240
Ser	Gly	Ser	Lys	Ser	Gly	Asn	Thr	Ala	Ser	Leu	Thr	Ile	Ser	Gly	Leu	
65					70					75					80	
cag	gct	gag	gac	gag	gct	gat	tat	tac	tgc	aac	tca	tat	gta	agc	agc	288
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Asn	Ser	Tyr	Val	Ser	Ser	
			85						90					95		
agg	ttt	tat	gtc	ttc	gga	act	ggg	acc	aag	gtc	acc	gtc	cta			330
Arg	Phe	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu			
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<210> 81
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 <212> PRT
 <213> Human

<400> 81

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Ser	Ile	Thr	Ile	Ser	Cys	Ala	Gly	Thr	Thr	Thr	Asp	Leu	Thr	Tyr	Tyr	
			20					25					30			
Asp	Leu	Val	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Gln	Ala	Pro	Lys	Leu	
		35					40					45				
Val	Ile	Tyr	Asp	Gly	Asn	Lys	Arg	Pro	Ser	Gly	Val	Ser	Asn	Arg	Phe	
	50				55					60						
Ser	Gly	Ser	Lys	Ser	Gly	Asn	Thr	Ala	Ser	Leu	Thr	Ile	Ser	Gly	Leu	
65					70					75					80	
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Asn	Ser	Tyr	Val	Ser	Ser	
			85						90					95		
Arg	Phe	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu			
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 <211> 348
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 <213> Human

<400> 82

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Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Gly	Gly	Leu	Val	Lys	Pro	Gly	Gly	
				5				10						15		
tcc	ctg	aga	ctc	tcc	tgt	gca	gcc	tct	gga	ttc	acc	ttc	agt	agc	tat	96
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr	
			20					25					30			
agc	atg	aac	tgg	gtc	cgc	cag	gct	cca	ggg	aag	ggg	ctg	gag	tgg	gtc	144
Ser	Met	Asn	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	
		35					40					45				
tca	tcc	att	agt	agt	agt	agt	agt	tac	ata	tac	tac	gca	gac	tca	gtg	192
Ser	Ser	Ile	Ser	Ser	Ser	Ser	Ser	Tyr	Ile	Tyr	Tyr	Ala	Asp	Ser	Val	
	50				55					60						
aag	ggc	cga	ttc	acc	atc	tcc	aga	gac	aac	gcc	aag	gac	tca	ctg	tat	240
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asp	Ser	Leu	Tyr	
65					70					75					80	
ctg	caa	atg	aac	agc	ctg	aga	gcc	gag	gac	acg	gct	gtg	tat	tac	tgt	288
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
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<211>	116
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<213>	Human

<400> 83

[illegible]

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<213>	Human

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gac Asp	aga Arg	gtc Val	acc Thr 20	atc Ile	act Thr	tgt Cys	cgg Arg	gcg Ala 25	agt Ser	cag Gln	ggg Gly	att Ile 30	agt Ser	agt Ser	cgg Arg	96
tta Leu	gcc Ala	tgg Trp 35	tat Tyr	cag Gln	cag Gln	aaa Lys	cca Pro 40	ggg Gly	aaa Lys	gcc Ala	cct Pro	aag Lys 45	ctc Leu	ctg Leu	atc Ile	144
tat Tyr	gct Ala 50	gca Ala	tcc Ser	agt Ser	ttg Leu	caa Gln 55	act Thr	ggg Gly	gtc Val	cca Pro 60	tca Ser	agg Arg	ttc Phe	agc Ser	ggc Gly	192
agt Ser 65	gga Gly	tct Ser	ggg Gly	aca Thr	gat Asp 70	ttc Phe	act Thr	ctc Leu	act Thr 75	atc Ile	agc Ser	agc Ser	ctg Leu	cag Gln	cct Pro 80	240
gaa Glu	gat Asp	ttt Phe	gca Ala	act Thr 85	tac Tyr	tat Tyr	tgt Cys	caa Gln	cag Gln 90	gct Ala	aac Asn	agg Arg	ttc Phe	cct Pro 95	ccg Pro	288
act Thr	ttc Phe	ggc Gly	cct Pro 100	ggg Gly	acc Thr	aaa Lys	gtg Val	gat Asp 105	atc Ile	aaa Lys						321

<210>	85
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SeqListing.txt

<213> Human

<400> 85

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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Arg
                20          25          30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
                35          40          45
Tyr Ala Ala Ser Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
                50          55          60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65          70          75          80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Asn Arg Phe Pro Pro
                85          90          95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
                100          105

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<210> 86

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<212> DNA

<213> Human

<400> 86

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cag tct gtc gtg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag      48
Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
                    5          10          15
agg gtc acc atc tcc tgc act ggg agc cac tcc aac ttc ggg gca gga      96
Arg Val Thr Ile Ser Cys Thr Gly Ser His Ser Asn Phe Gly Ala Gly
                20          25          30
act gat gta cat tgg tac caa cac ctt cca gga aca gcc ccc aga ctc      144
Thr Asp Val His Trp Tyr Gln His Leu Pro Gly Thr Ala Pro Arg Leu
                35          40          45
ctc att cat gga gac agt aat cgg ccc tcc ggg gtc cct gac cga ttc      192
Leu Ile His Gly Asp Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
                50          55          60
tct ggc tcc agg tct ggc acc tca gcc tcc ctg gcc atc act ggg ctc      240
Ser Gly Ser Arg Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
65          70          75          80
cgg gtt gag gat gag gct gat tat tac tgt cag tcg tat gac tat ggc      288
Arg Val Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Gly
                85          90          95
ctg aga ggt tgg gtg ttc ggc ggc ggg acc aag ctg acc gtc ctt      333
Leu Arg Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
                100          105          110

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<210> 87

<211> 111

<212> PRT

<213> Human

<400> 87

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Gln Ser Val Val Thr Gln Pro Pro Ser Val Ser Gly Ala Pro Gly Gln
                    5          10          15
Arg Val Thr Ile Ser Cys Thr Gly Ser His Ser Asn Phe Gly Ala Gly
                20          25          30
Thr Asp Val His Trp Tyr Gln His Leu Pro Gly Thr Ala Pro Arg Leu
                35          40          45
Leu Ile His Gly Asp Ser Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
                50          55          60

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SeqListing.txt

Ser Gly Ser Arg Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
 65 70 75 80
 Arg Val Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Tyr Gly
 85 90 95
 Leu Arg Gly Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 88
 <211> 321
 <212> DNA
 <213> Human

<400> 88

gat gtt gtg atg act cag tct cca tcg tcc ctg tct gca tct gta ggg 48
 Asp Val Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 5 10 15
 gac aga gtc acc atc act tgc cgg gca agt cag aac att aac aac tat 96
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Asn Asn Tyr
 20 25 30
 tta aat tgg tat caa cag aaa cca gga aaa gcc cct aag ctc ctg atc 144
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 tat gct gcc tcc act ttg caa agt ggg gtc cca tca agg ttc agt ggc 192
 Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 agt gga tct ggg aca gat ttc act ctc acc atc acc agc cta cag cct 240
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln Pro
 65 70 75 80
 gaa gat tct gca act tat tac tgc caa cag tat tcc cgt tat cct ccc 288
 Glu Asp Ser Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Arg Tyr Pro Pro
 85 90 95
 act ttc ggc gga ggg acc aag gtg gag atc aca 321
 Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Thr
 100 105

<210> 89
 <211> 107
 <212> PRT
 <213> Human

<400> 89

Asp Val Val Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asn Ile Asn Asn Tyr
 20 25 30
 Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Thr Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Ser Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Arg Tyr Pro Pro
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Thr
 100 105

<210> 90
 <211> 330
 <212> DNA
 <213> Human

SeqListing.txt

<400> 90

cag	tct	gcc	ctg	act	cag	cct	gcc	tcc	gtg	tct	ggg	tct	cgt	gga	cag	48
Gln	Ser	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Val	Ser	Gly	Ser	Arg	Gly	Gln	
				5					10					15		
tcg	atc	acc	ctc	tcc	tgc	acc	ggc	tcc	agc	act	gat	gtg	ggt	aat	tat	96
Ser	Ile	Thr	Leu	Ser	Cys	Thr	Gly	Ser	Ser	Thr	Asp	Val	Gly	Asn	Tyr	
			20					25					30			
aac	tat	atc	tcc	tgg	tac	caa	caa	cac	cca	ggc	caa	gcc	ccc	aaa	ctc	144
Asn	Tyr	Ile	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Gln	Ala	Pro	Lys	Leu	
			35					40				45				
ttg	att	tac	gat	gtc	act	agt	cgg	ccc	tca	ggt	gtt	tct	gat	cgc	ttc	192
Leu	Ile	Tyr	Asp	Val	Thr	Ser	Arg	Pro	Ser	Gly	Val	Ser	Asp	Arg	Phe	
			50				55				60					
tct	ggc	tcc	aag	tca	ggc	ctc	acg	gcc	tcc	ctg	acc	atc	tct	gga	ctc	240
Ser	Gly	Ser	Lys	Ser	Gly	Leu	Thr	Ala	Ser	Leu	Thr	Ile	Ser	Gly	Leu	
			65			70			75					80		
cag	cct	gaa	gac	gag	gct	gac	tat	tac	tgc	aac	tcc	tat	tct	gcc	acc	288
Gln	Pro	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Asn	Ser	Tyr	Ser	Ala	Thr	
				85					90					95		
gac	act	ctt	gtt	ttt	ggc	gga	ggg	acc	aag	ctg	acc	gtc	cta			330
Asp	Thr	Leu	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu			
			100					105					110			

<210> 91

<211> 110

<212> PRT

<213> Human

<400> 91

Gln	Ser	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Val	Ser	Gly	Ser	Arg	Gly	Gln	
				5					10					15		
Ser	Ile	Thr	Leu	Ser	Cys	Thr	Gly	Ser	Ser	Thr	Asp	Val	Gly	Asn	Tyr	
			20					25					30			
Asn	Tyr	Ile	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Gln	Ala	Pro	Lys	Leu	
			35					40				45				
Leu	Ile	Tyr	Asp	Val	Thr	Ser	Arg	Pro	Ser	Gly	Val	Ser	Asp	Arg	Phe	
			50				55				60					
Ser	Gly	Ser	Lys	Ser	Gly	Leu	Thr	Ala	Ser	Leu	Thr	Ile	Ser	Gly	Leu	
			65			70			75					80		
Gln	Pro	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Asn	Ser	Tyr	Ser	Ala	Thr	
				85					90					95		
Asp	Thr	Leu	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu			
			100					105					110			

<210> 92

<211> 333

<212> DNA

<213> Human

<400> 92

cag	gct	gtg	ctg	act	cag	ccg	tcc	tca	gtg	tct	ggg	gcc	cca	gga	cag	48
Gln	Ala	Val	Leu	Thr	Gln	Pro	Ser	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	
				5					10					15		
agg	gtc	acc	atc	tcc	tgc	act	ggg	caa	agc	tcc	aat	atc	ggg	gca	gat	96
Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Gln	Ser	Ser	Asn	Ile	Gly	Ala	Asp	
			20					25					30			
tat	gat	gta	cat	tgg	tac	cag	caa	ttt	cca	gga	aca	gcc	ccc	aaa	ctc	144
Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Phe	Pro	Gly	Thr	Ala	Pro	Lys	Leu	
			35				40					45				
ctc	atc	tat	ggt	cac	aac	aat	cgg	ccc	tca	ggg	gtc	cct	gac	cga	ttc	192

SeqListing.txt

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Leu Ile Tyr Gly His Asn Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 50          55          60
tct ggc tcc aag tct ggc acc tca gtc tcc ctg gtc atc agt ggg ctc 240
Ser Gly Ser Lys Ser Gly Thr Ser Val Ser Leu Val Ile Ser Gly Leu
 65          70          75          80
cag gct gag gat gag gct gat tat tat tgc cag tcc tat gac agc agt 288
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser
      85          90          95
cta agt ggt ttg gta ttc ggc gga ggg acc aag gtg acc gtc cta 333
Leu Ser Gly Leu Val Phe Gly Gly Gly Thr Lys Val Thr Val Leu
      100          105          110

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<210> 93
 <211> 111
 <212> PRT
 <213> Human

<400> 93

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Gln Ala Val Leu Thr Gln Pro Ser Ser Val Ser Gly Ala Pro Gly Gln
      5          10          15
Arg Val Thr Ile Ser Cys Thr Gly Gln Ser Ser Asn Ile Gly Ala Asp
      20          25          30
Tyr Asp Val His Trp Tyr Gln Gln Phe Pro Gly Thr Ala Pro Lys Leu
      35          40          45
Leu Ile Tyr Gly His Asn Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
      50          55          60
Ser Gly Ser Lys Ser Gly Thr Ser Val Ser Leu Val Ile Ser Gly Leu
      65          70          75          80
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser
      85          90          95
Leu Ser Gly Leu Val Phe Gly Gly Gly Thr Lys Val Thr Val Leu
      100          105          110

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<210> 94
 <211> 321
 <212> DNA
 <213> Human

<400> 94

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gac atc cag ttg acc cag tct cca tct tct gtg tct gca tct gtt gga 48
Asp Ile Gln Leu Thr 5 Gln Ser Pro Ser 10 Val Ser Ala Ser Val Gly
      15
gac agc gtc acc atc act tgt cgg gcg agt cag gat att agc agc tgg 96
Asp Ser Val Thr 20 Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Trp
      25          30
tta gcc tgg tat caa cag aaa cca ggg gag gcc cct aag ctc ctg atc 144
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
      35          40          45
tat gct gca tcc ctt ctt caa agt ggg gtc cca tca cgg ttc agc ggc 192
Tyr Ala Ala Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
      50          55          60
agt gga tct ggg aca gat ttc gct ctc act atc aac agc ctg cag cct 240
Ser Gly Ser Gly Thr 70 Phe Ala Leu Thr 75 Asn Ser Leu Gln Pro
      80
gaa gat ttt gca act tac ttt tgt caa cag gct gac agt ttc cct ccc 288
Glu Asp Phe Ala Thr 85 Tyr Phe Cys Gln Gln Ala Asp Ser Phe Pro Pro
      90          95
acc ttc ggc caa ggg aca cgg ctg gag att aaa 321
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
      100          105

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SeqListing.txt

<210> 95
 <211> 107
 <212> PRT
 <213> Human

<400> 95

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Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
              5              10              15
Asp Ser Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Trp
              20              25              30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
              35              40              45
Tyr Ala Ala Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
              50              55              60
Ser Gly Ser Gly Thr Asp Phe Ala Leu Thr Ile Asn Ser Leu Gln Pro
              65              70              75              80
Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ala Asp Ser Phe Pro Pro
              85              90              95
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
              100              105

```

<210> 96
 <211> 321
 <212> DNA
 <213> Human

<400> 96

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gac atc gag ttg acc cag tct cca tct tcc gtg tct gca tct gtg gga      48
Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
              5              10              15
gac aga gtc acc ctc act tgt cgg gcg agt cag agt att aag agg tgg      96
Asp Arg Val Thr Leu Thr Cys Arg Ala Ser Gln Ser Ile Lys Arg Trp
              20              25              30
tta gcc tgg tat cag cag aaa cca ggg aag gcc cct agg ctc ctc atc     144
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
              35              40              45
tat gct gca tcc act ttg caa agt ggg gtc cca tca agg ttc agc ggc     192
Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
              50              55              60
ggg gga tct ggg aca gat ttc act ctc acc atc aac agc ctg cag cct     240
Gly Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
              65              70              75              80
gaa gat ttt gca att tac tac tgt caa cag gct aac agt ttc cct ccc     288
Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Pro
              85              90              95
act ttc ggc cct ggg acc aaa gtg gat atc aaa                        321
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
              100              105

```

<210> 97
 <211> 107
 <212> PRT
 <213> Human

<400> 97

```

Asp Ile Glu Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
              5              10              15
Asp Arg Val Thr Leu Thr Cys Arg Ala Ser Gln Ser Ile Lys Arg Trp
              20              25              30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Arg Leu Leu Ile
              35

```

SeqListing.txt

```

      35      40      45
Tyr Ala Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
      50      55      60
Gly Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Gln Pro
      65      70      75      80
Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Ala Asn Ser Phe Pro Pro
      85      90      95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
      100      105

```

<210> 98
 <211> 333
 <212> DNA
 <213> Human

<400> 98

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cag tct gtc gtg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag      48
Gln Ser Val Val Thr      5 Gln Pro Pro Ser Val      10 Ser Gly Ala Pro Gly Gln
agg gtc acc atc tcc tgc agt ggg agc agg tcc aac atc ggg gca cac      96
Arg Val Thr Ile      20 Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ala His
tat gaa gtc cag tgg tac cag cag ttt ccg gga gca gcc ccc aaa ctc      144
Tyr Glu Val Gln Trp Tyr Gln Gln Phe Pro Gly Ala Ala Pro Lys Leu
ctc atc tat ggt gac acc aat cgg ccc tca ggg gtc cct gac cga ttc      192
Leu Ile Tyr Gly Asp Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
tct gcc tcc cac tct ggc acc tca gcc tcc ctt gcc atc aca ggg ctc      240
Ser Ala Ser His Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
cag gct gag gat gag gct gat tat tac tgc cag tcg tat gac acc agt      288
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Thr Ser
cta cgt ggt ccg gtg ttc ggc gga ggg acc aag ctg acc gtc cta      333
Leu Arg Gly Pro Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
      100      105      110

```

<210> 99
 <211> 111
 <212> PRT
 <213> Human

<400> 99

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Gln Ser Val Val Thr      5 Gln Pro Pro Ser Val      10 Ser Gly Ala Pro Gly Gln
Arg Val Thr Ile      20 Ser Cys Ser Gly Ser Arg Ser Asn Ile Gly Ala His
Tyr Glu Val Gln Trp Tyr Gln Gln Phe Pro Gly Ala Ala Pro Lys Leu
Leu Ile Tyr Gly Asp Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
Ser Ala Ser His Ser Gly Thr Ser Ala Ser Leu Ala Ile Thr Gly Leu
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Thr Ser
Leu Arg Gly Pro Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
      100      105      110

```

<210> 100
 <211> 333

SeqListing.txt

<212> DNA
<213> Human

<400> 100

cag tct gtc gtg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag	48
Gln Ser Val Val Thr 5 Gln Pro Pro Ser Val 10 Ser Gly Ala Pro Gly Gln 15	
agg gtc acc atc tcc tgc act ggg agc agc tcc aac atc ggg aca ggt	96
Arg Val Thr Ile Ser Cys Thr Gly Ser Ser Ser Asn Ile Gly Thr Gly 30	
tat gat gta cat tgg tac cag cag gtt cca gga tca gcc ccc aaa ctc	144
Tyr Asp Val His Trp Tyr Gln Gln Val Pro Gly Ser Ala Pro Lys Leu 45	
ctc atc tat gct tac acc aat cgg ccc tca ggg gtc cct gac cga ttc	192
Leu Ile Tyr Ala Tyr Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe 60	
tct ggc tcc aag tct ggc atg tca gcc tcc ctg gtc atc ggt ggt ctc	240
Ser Gly Ser Lys Ser Gly Met Ser Ala Ser Leu Val Ile Gly Gly Leu 80	
cag gct gag gat gag gct gat tat tac tgc cag tcc ttt gac gac agc	288
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Phe Asp Asp Ser 95	
ctg aat ggt ctt gtc ttc gga cct ggg acc tcg gtc acc gtc ctc	333
Leu Asn Gly Leu Val Phe Gly Pro Gly Thr Ser Val Thr Val Leu 110	

<210> 101
<211> 111
<212> PRT
<213> Human

<400> 101

Gln Ser Val Val Thr 5 Gln Pro Pro Ser Val 10 Ser Gly Ala Pro Gly Gln 15
Arg Val Thr Ile Ser Cys Thr Gly Ser 25 Ser Ser Asn Ile Gly Thr Gly 30
Tyr Asp Val His Trp Tyr Gln Gln Val Pro Gly Ser Ala Pro Lys Leu 45
Leu Ile Tyr Ala Tyr Thr Asn Arg Pro Ser Gly Val Pro Asp Arg Phe 60
Ser Gly Ser Lys Ser Gly Met Ser Ala Ser Leu Val Ile Gly Gly Leu 80
Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Phe Asp Asp Ser 95
Leu Asn Gly Leu Val Phe Gly Pro Gly Thr Ser Val Thr Val Leu 110

<210> 102
<211> 333
<212> DNA
<213> Human

<400> 102

cag tct gtg ttg acg cag ccg ccc tca gtg tct ggg gcc cca ggg cag	48
Gln Ser Val Leu Thr 5 Gln Pro Pro Ser Val 10 Ser Gly Ala Pro Gly Gln 15	
agg gtc acc atc tcc tgc act ggg agc cac tcc aac ttc ggg gca ggt	96
Arg Val Thr Ile Ser Cys Thr Gly Ser His Ser Asn Phe Gly Ala Gly 30	
act gat gtc cat tgg tac caa cac ctt cca gga aca gcc ccc aga ctc	144

SeqListing.txt

Thr	Asp	Val	His	Trp	Tyr	Gln	His	Leu	Pro	Gly	Thr	Ala	Pro	Arg	Leu	
		35					40					45				
ctc	att	cat	gga	gac	act	cat	cgg	ccc	tcc	ggg	gtc	gct	gac	cga	ttc	192
Leu	Ile	His	Gly	Asp	Thr	His	Arg	Pro	Ser	Gly	Val	Ala	Asp	Arg	Phe	
		50				55					60					
tct	ggc	tcc	agg	tct	ggc	gcc	tca	gcc	tcc	ctg	gcc	atc	act	ggg	ctc	240
Ser	Gly	Ser	Arg	Ser	Gly	Ala	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	
		65			70					75					80	
cgg	gtt	gag	gat	gag	gct	gat	tat	tac	tgt	cag	tcg	tat	gac	tat	ggc	288
Arg	Val	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Tyr	Gly	
				85					90					95		
ctg	aga	ggg	tgg	gtg	ttc	ggc	ggc	ggg	acc	aag	ctg	acc	gtc	ctt		333
Leu	Arg	Gly	Trp	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu		
			100					105					110			

<210> 103
 <211> 111
 <212> PRT
 <213> Human

<400> 103

Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	
				5					10					15		
Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	His	Ser	Asn	Phe	Gly	Ala	Gly	
			20					25					30			
Thr	Asp	Val	His	Trp	Tyr	Gln	His	Leu	Pro	Gly	Thr	Ala	Pro	Arg	Leu	
		35					40					45				
Leu	Ile	His	Gly	Asp	Thr	His	Arg	Pro	Ser	Gly	Val	Ala	Asp	Arg	Phe	
	50					55					60					
Ser	Gly	Ser	Arg	Ser	Gly	Ala	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	
	65				70					75					80	
Arg	Val	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Tyr	Gly	
				85					90					95		
Leu	Arg	Gly	Trp	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu		
			100					105					110			

<210> 104
 <211> 321
 <212> DNA
 <213> Human

<400> 104

gac	atc	cag	atg	acc	cag	tct	cca	tct	tcc	gtg	tct	gca	tct	ata	gga	48
Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	Ser	Val	Ser	Ala	Ser	Ile	Gly	
				5					10					15		
gac	aga	gtc	acc	atc	act	tgt	cgg	gcg	agt	cag	ggg	att	gac	aac	tgg	96
Asp	Arg	Val	Thr	Ile	Thr	Cys	Arg	Ala	Ser	Gln	Gly	Ile	Asp	Asn	Trp	
			20					25					30			
tta	ggc	tgg	tat	cag	cag	aaa	cct	ggg	aaa	gcc	cct	aaa	ctc	ctg	atc	144
Leu	Gly	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ala	Pro	Lys	Leu	Leu	Ile	
		35				40						45				
tac	gat	gca	tcc	aat	ttg	gac	aca	ggg	gtc	cca	tca	agg	ttc	agt	gga	192
Tyr	Asp	Ala	Ser	Asn	Leu	Asp	Thr	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly	
	50				55					60						
agt	gga	tct	ggg	aca	tat	ttt	act	ctc	acc	atc	agt	agc	ctg	caa	gct	240
Ser	Gly	Ser	Gly	Thr	Tyr	Phe	Thr	Leu	Thr	Ile	Ser	Ser	Leu	Gln	Ala	
	65				70					75					80	
gaa	gat	ttt	gca	gtt	tat	ttc	tgt	caa	cag	gct	aaa	gct	ttt	cct	ccc	288
Glu	Asp	Phe	Ala	Val	Tyr	Phe	Cys	Gln	Gln	Ala	Lys	Ala	Phe	Pro	Pro	
				85					90					95		
act	ttc	ggc	gga	ggg	acc	aag	gtg	gac	atc	aaa						321

Thr Phe Gly Gly Gly Thr Lys Val Asp Ile Lys
100 105

<210> 105
<211> 107
<212> PRT
<213> Human

<400> 105

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Ile Gly
5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Asp Asn Trp
20 25 30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Tyr Asp Ala Ser Asn Leu Asp Thr Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Tyr Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala
65 70 75 80
Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Ala Lys Ala Phe Pro Pro
85 90 95
Thr Phe Gly Gly Gly Thr Lys Val Asp Ile Lys
100 105

<210> 106
<211> 13
<212> PRT
<213> Human

<400> 106

Thr Gly Ser His Ser Asn Phe Gly Ala Gly Thr Asp Val
5 10

<210> 107
<211> 7
<212> PRT
<213> Human

<400> 107

Gly Asp Ser Asn Arg Pro Ser
5

<210> 108
<211> 11
<212> PRT
<213> Human

<400> 108

Gln Ser Tyr Asp Tyr Gly Leu Arg Gly Trp Val
5 10

<210> 109
<211> 11
<212> PRT
<213> Human

<400> 109

Arg Ala Ser Gln Asn Ile Asn Asn Tyr Leu Asn
5 10

<210> 110
<211> 7

SeqListing.txt

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<212> PRT
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Met Gln Ser Lys Val Leu Leu Ala Val Ala Leu Trp Leu Cys Val Glu	
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acc cgg gcc gcc tct gtg ggt ttg cct agt gtt tct ctt gat ctg ccc	155
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Arg Leu Ser Ile Gln Lys Asp Ile Leu Thr Ile Lys Ala Asn Thr Thr	
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Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro	
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Asn Asn Gln Ser Gly Ser Glu Gln Arg Val Glu Val Thr Glu Cys Ser	
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SeqListing.txt

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Asp	Thr	Gly	Ala	Tyr	Lys	Cys	Phe	Tyr	Arg	Glu	Thr	Asp	Leu	Ala	Ser	
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Val	Ile	Tyr	Val	Tyr	Val	Gln	Asp	Tyr	Arg	Ser	Pro	Phe	Ile	Ala	Ser	
		115						120					125			
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Val	Ser	Asp	Gln	His	Gly	Val	Val	Tyr	Ile	Thr	Glu	Asn	Lys	Asn	Lys	
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act	gtg	gtg	att	cca	tgt	ctc	ggg	tcc	att	tca	aat	ctc	aac	gtg	tca	539
Thr	Val	Val	Ile	Pro	Cys	Leu	Gly	Ser	Ile	Ser	Asn	Leu	Asn	Val	Ser	
		145													160	
ctt	tgt	gca	aga	tac	cca	gaa	aag	aga	ttt	gtt	cct	gat	ggt	aac	aga	587
Leu	Cys	Ala	Arg	Tyr	Pro	Glu	Lys	Arg	Phe	Val	Pro	Asp	Gly	Asn	Arg	
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Ile	Ser	Trp	Asp	Ser	Lys	Lys	Gly	Phe	Thr	Ile	Pro	Ser	Tyr	Met	Ile	
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agc	tat	gct	ggc	atg	gtc	ttc	tgt	gaa	gca	aaa	att	aat	gat	gaa	agt	683
Ser	Tyr	Ala	Gly	Met	Val	Phe	Cys	Glu	Ala	Lys	Ile	Asn	Asp	Glu	Ser	
		195						200							205	
tac	cag	tct	att	atg	tac	ata	gtt	gtc	gtt	gta	ggg	tat	agg	att	tat	731
Tyr	Gln	Ser	Ile	Met	Tyr	Ile	Val	Val	Val	Val	Gly	Tyr	Arg	Ile	Tyr	
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Asp	Val	Val	Leu	Ser	Pro	Ser	His	Gly	Ile	Glu	Leu	Ser	Val	Gly	Glu	
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Lys	Leu	Val	Leu	Asn	Cys	Thr	Ala	Arg	Thr	Glu	Leu	Asn	Val	Gly	Ile	
				245						250					255	
gac	ttc	aac	tgg	gaa	tac	cct	tct	tcg	aag	cat	cag	cat	aag	aaa	ctt	875
Asp	Phe	Asn	Trp	Glu	Tyr	Pro	Ser	Ser	Lys	His	Gln	His	Lys	Lys	Leu	
			260												270	
gta	aac	cga	gac	cta	aaa	acc	cag	tct	ggg	agt	gag	atg	aag	aaa	ttt	923
Val	Asn	Arg	Asp	Leu	Lys	Thr	Gln	Ser	Gly	Ser	Glu	Met	Lys	Lys	Phe	
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Leu	Ser	Thr	Leu	Thr	Ile	Asp	Gly	Val	Thr	Arg	Ser	Asp	Gln	Gly	Leu	
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Tyr	Thr	Cys	Ala	Ala	Ser	Ser	Gly	Leu	Met	Thr	Lys	Lys	Asn	Ser	Thr	
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Phe	Val	Arg	Val	His	Glu	Lys	Pro	Phe	Val	Ala	Phe	Gly	Ser	Gly	Met	
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gaa	tct	ctg	gtg	gaa	gcc	acg	gtg	ggg	gag	cgt	gtc	aga	atc	cct	gcg	1115
Glu	Ser	Leu	Val	Glu	Ala	Thr	Val	Gly	Glu	Arg	Val	Arg	Ile	Pro	Ala	
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Lys	Tyr	Leu	Gly	Tyr	Pro	Pro	Pro	Glu	Ile	Lys	Trp	Tyr	Lys	Asn	Gly	
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Ile	Pro	Leu	Glu	Ser	Asn	His	Thr	Ile	Lys	Ala	Gly	His	Val	Leu	Thr	
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Ile	Met	Glu	Val	Ser	Glu	Arg	Asp	Thr	Gly	Asn	Tyr	Thr	Val	Ile	Leu	
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acc	aat	ccc	att	tca	aag	gag	aag	cag	agc	cat	gtg	gtc	tct	ctg	gtt	1307
Thr	Asn	Pro	Ile	Ser	Lys	Glu	Lys	Gln	Ser	His	Val	Val	Ser	Leu	Val	
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SeqListing.txt

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Asp	Ser	Tyr	Gln	Tyr	Gly	Thr	Thr	Gln	Thr	Leu	Thr	Cys	Thr	Val	Tyr		
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gcc	att	cct	ccc	ccg	cat	cac	atc	cac	tgg	tat	tgg	cag	ttg	gag	gaa	1451	
Ala	Ile	Pro	Pro	Pro	His	His	Ile	His	Trp	Tyr	Trp	Gln	Leu	Glu	Glu		
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Glu	Cys	Ala	Asn	Glu	Pro	Ser	His	Ala	Val	Ser	Val	Thr	Asn	Pro	Tyr		
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Pro	Cys	Glu	Glu	Trp	Arg	Ser	Val	Glu	Asp	Phe	Gln	Gly	Gly	Asn	Lys		
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Ile	Glu	Val	Asn	Lys	Asn	Gln	Phe	Ala	Leu	Ile	Glu	Gly	Lys	Asn	Lys		
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Thr	Val	Ser	Thr	Leu	Val	Ile	Gln	Ala	Ala	Asn	Val	Ser	Ala	Leu	Tyr		
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Lys	Cys	Glu	Ala	Val	Asn	Lys	Val	Gly	Arg	Gly	Glu	Arg	Val	Ile	Ser		
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Phe	His	Val	Thr	Arg	Gly	Pro	Glu	Ile	Thr	Leu	Gln	Pro	Asp	Met	Gln		
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Pro	Thr	Glu	Gln	Glu	Ser	Val	Ser	Leu	Trp	Cys	Thr	Ala	Asp	Arg	Ser		
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Thr	Phe	Glu	Asn	Leu	Thr	Trp	Tyr	Lys	Leu	Gly	Pro	Gln	Pro	Leu	Pro		
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atc	cat	gtg	gga	gag	ttg	ccc	aca	cct	gtt	tgc	aag	aac	ttg	gat	act	1883	
Ile	His	Val	Gly	Glu	Leu	Pro	Thr	Pro	Val	Cys	Lys	Asn	Leu	Asp	Thr		
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Asn	Leu	Thr	Ile	Arg	Arg	Val	Arg	Lys	Glu	Asp	Glu	Gly	Leu	Tyr	Thr		
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Cys	Gln	Ala	Cys	Ser	Val	Leu	Gly	Cys	Ala	Lys	Val	Glu	Ala	Phe	Phe		
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Arg Leu Ser₃₅ Ile Gln Lys Asp₄₀ Ile Leu Thr Ile Lys Ala₄₅ Asn Thr Thr
Leu Gln Ile₅₀ Thr Cys Arg Gly₅₅ Gln Arg Asp Leu Asp₆₀ Trp Leu Trp Pro
Asn Asn Gln Ser Gly₆₅ Ser₇₀ Glu Gln Arg Val₇₅ Glu Val Thr Glu Cys Ser₈₀
Asp Gly Leu Phe Cys₈₅ Lys Thr Leu Thr Ile₉₀ Pro Lys Val Ile Gly₉₅ Asn
Asp Thr Gly Ala₁₀₀ Tyr Lys Cys Phe Tyr₁₀₅ Arg Glu Thr Asp Leu Ala Ser
Val Ile Tyr₁₁₅ Val Tyr Val Gln Asp₁₂₀ Tyr Arg Ser Pro Phe₁₂₅ Ile Ala Ser
Val Ser Asp₁₃₀ Gln His Gly Val₁₃₅ Val Tyr Ile Thr Glu Asn Lys Asn Lys
Thr Val Val₁₄₅ Ile Pro Cys₁₅₀ Leu Gly Ser Ile Ser₁₅₅ Asn Leu Asn Val Ser₁₆₀
Leu Cys Ala Arg Tyr₁₆₅ Pro Glu Lys Arg Phe₁₇₀ Val Pro Asp Gly Asn Arg
Ile Ser Trp Asp₁₈₀ Ser Lys Lys Gly Phe₁₈₅ Thr Ile Pro Ser Tyr Met Ile
Ser Tyr Ala₁₉₅ Gly Met Val Phe Cys₂₀₀ Glu Ala Lys Ile Asn Asp Glu Ser
Tyr Gln Ser Ile Met Tyr Ile₂₁₅ Val Val Val Gly₂₂₀ Tyr Arg Ile Tyr
Asp Val Val₂₂₅ Leu Ser Pro Ser His Gly Ile Glu₂₃₅ Leu Ser Val Gly Glu₂₄₀
Lys Leu Val Leu Asn₂₄₅ Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile₂₅₅
Asp Phe Asn Trp₂₆₀ Glu Tyr Pro Ser Ser₂₆₅ Lys His Gln His Lys Lys Leu
Val Asn Arg Asp₂₇₅ Leu Lys Thr Gln Ser Gly Ser Glu Met₂₈₅ Lys Lys Phe
Leu Ser Thr Leu Thr Ile Asp₂₉₅ Gly Val Thr Arg Ser Asp Gln Gly Leu
Tyr Thr Cys Ala Ala Ser₃₁₀ Ser Gly Leu Met Thr Lys Lys Asn Ser Thr
305 Phe Val Arg Val His₃₂₅ Glu Lys Pro Phe Val Ala Phe Gly Ser Gly Met
Glu Ser Leu Val₃₄₀ Glu Ala Thr Val Gly₃₄₅ Glu Arg Val Arg Ile Pro Ala
Lys Tyr Leu Gly Tyr Pro Pro₃₆₀ Glu Ile Lys Trp Tyr Lys Asn Gly
Ile Pro Leu Glu Ser Asn His Thr Ile Lys Ala Gly₃₈₀ His Val Leu Thr
Ile Met Glu Val Ser Glu₃₉₀ Arg Asp Thr Gly Asn Tyr Thr Val Ile Leu
385 Thr Asn Pro Ile Ser₄₀₅ Lys Glu Lys Gln Ser His Val Val Ser Leu Val
Val Tyr Val Pro₄₂₀ Pro Gln Ile Gly Glu₄₂₅ Lys Ser Leu Ile Ser Pro Val
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SeqListing.txt

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 465 470 475 480
 Pro Cys Glu Glu Trp Arg Ser Val Glu Asp Phe Gln Gly Gly Asn Lys
 485 490 495
 Ile Glu Val Asn Lys Asn Gln Phe Ala Leu Ile Glu Gly Lys Asn Lys
 500 505 510
 Thr Val Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr
 515 520 525
 Lys Cys Glu Ala Val Asn Lys Val Gly Arg Gly Glu Arg Val Ile Ser
 530 535 540
 Phe His Val Thr Arg Gly Pro Glu Ile Thr Leu Gln Pro Asp Met Gln
 545 550 555 560
 Pro Thr Glu Gln Glu Ser Val Ser Leu Trp Cys Thr Ala Asp Arg Ser
 565 570 575
 Thr Phe Glu Asn Leu Thr Trp Tyr Lys Leu Gly Pro Gln Pro Leu Pro
 580 585 590
 Ile His Val Gly Glu Leu Pro Thr Pro Val Cys Lys Asn Leu Asp Thr
 595 600 605
 Leu Trp Lys Leu Asn Ala Thr Met Phe Ser Asn Ser Thr Asn Asp Ile
 610 615 620
 Leu Ile Met Glu Leu Lys Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr
 625 630 635 640
 Val Cys Leu Ala Gln Asp Arg Lys Thr Lys Lys Arg His Cys Val Val
 645 650 655
 Arg Gln Leu Thr Val Leu Glu Arg Val Ala Pro Thr Ile Thr Gly Asn
 660 665 670
 Leu Glu Asn Gln Thr Thr Ser Ile Gly Glu Ser Ile Glu Val Ser Cys
 675 680 685
 Thr Ala Ser Gly Asn Pro Pro Pro Gln Ile Met Trp Phe Lys Asp Asn
 690 695 700
 Glu Thr Leu Val Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg
 705 710 715 720
 Asn Leu Thr Ile Arg Arg Val Arg Lys Glu Asp Glu Gly Leu Tyr Thr
 725 730 735
 Cys Gln Ala Cys Ser Val Leu Gly Cys Ala Lys Val Glu Ala Phe Phe
 740 745 750
 Ile Ile Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu
 755 760